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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,091	09/21/2005	Isamu Yoshii	L9289.05180	5857

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EXAMINER	
AHMED, ENAM	

ART UNIT	PAPER NUMBER
2112	

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01/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/550,091	YOSHII, ISAMU	
	Examiner	Art Unit	
	Enam Ahmed	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/21/05 and 4/3/06</u> | 6) <input type="checkbox"/> Other: _____ |

Non – Final

Specification

The disclosure is objected to because of the following informalities:

On page 9 and line 21, the word control seems to have been misspelled as "contorl".

Appropriate correction is required.

35 U.S.C. 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 5-6 are rejected under 35 U.S.C. 102(e) as being unpatentable over

Ophir (U.S. Patent No. 6,944,235).

With respect to claim 5, the Ophir reference teaches performing concatenated coding processing on transmission data and transmitting said data by radio, said method comprising performing different outer coding processing on the transmission data for each retransmission (column 2, lines 19-58)).

With respect to claim 6, the Ophir reference teaches wherein the outer coding processing comprises Reed-Solomon coding processing and inner code processing comprises turbo coding processing (column 5, lines 5-17) and (column 7, lines 35-48).

35 U.S.C. 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ophir (U.S. Patent No. 6,944,235) in view of Schramm et al. (U.S. Patent No. 6,208,663).

With respect to claim 1, the Ophir reference teaches an inner coding section that performs inner coding processing on coded data subjected to outer coding processing (column 2, lines 19-27), (column 2, lines 28-34) and (column 2, line 61 – column 3, line 11); a transmitter that transmits by radio the coded data subjected to the inner coding processing (column 2, line 61 – column 3, line 11) and (column 5, line 18 – column 6, line 14). The Ophir reference does not teach an outer coding section that performs different coding processing on transmission data depending on the number of retransmissions. The Schramm et al. reference teaches an outer coding section that performs different coding processing on transmission data depending on the number of retransmissions (column 2, line 55 – column 3, line 22), (column 3, lines 41 - 62), (column 6, lines 22-42) and (column 7, lines 39-53). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the references Ophir and Schramm et al. to incorporate an outer coding section that performs different coding processing on transmission data depending on the number of retransmissions into the claimed inventions. The motivation for an outer coding section that performs different coding processing on transmission data depending on the number of retransmissions is for increased protection and/or lower level modulation to reduce the probability that the retransmitted block is received erroneously and improve overall system performance (column 4, lines 8-11 – Schramm et al. reference).

With respect to claim 2, the Ophir reference teaches a Reed-Solomon coder that performs Reed-Solomon coding processing on the interleaving-processed transmission data and the inner coding section has a turbo decoder (column 5, lines 5-17) and (column 7, lines 35-48). The Ophir reference does not teach an interleaver that performs interleaving on transmission data using different interleaving patterns depending on the number of

retransmissions. The Schramm et al. reference teaches an interleaver that performs interleaving on transmission data using different interleaving patterns depending on the number of retransmissions (column 3, lines 5-22) and (column 6, lines 43-59). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the references Ophir and Schramm et al. to incorporate an interleaver that performs interleaving on transmission data using different interleaving patterns depending on the number of retransmissions into the claimed invention. The motivation for an interleaver that performs interleaving on transmission data using different interleaving patterns depending on the number of retransmissions is for increased protection and/or lower level modulation to reduce the probability that the retransmitted block is received erroneously and improve overall system performance (column 4, lines 8-11 – Schramm et al. reference).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ophir (U.S. Patent No. 6,944,235), Schramm et al. (U.S. Patent No. 6,208,663) in view of Kuchi (U.S. Patent No. 7,065,156).

With respect to claim 3, all of the limitations of claim 1 have been addressed. The Ophir reference does not teach wherein the transmitter performs frequency-hopping OFDM processing on the coded data, and transmits said data by radio. The Kuchi reference teaches wherein the transmitter performs frequency-hopping OFDM processing on the coded data, and transmits said data by radio (column 5, line 65 – column 6, line 18). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the references Ophir and Kuchi to incorporate wherein the transmitter performs frequency-hopping OFDM processing on the coded data, and transmits said data by radio into the claimed

invention. The motivation for wherein the transmitter performs frequency-hopping OFDM processing on the coded data, and transmits said data by radio for providing high transmission rate data services in addition to high quality voice services (column 1, lines 19-20 – Kuchi reference).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cummings et al. (U.S. Patent No. 7,089,478) in view of Golitschek et al. (U.S. Patent No. 6,892,341).

With respect to claim 4, the Cummings et al. reference teaches a combiner that combines information bits corresponding to the number of retransmissions subjected to inner coding (column 1, line 64 – column 2, line 10), (column 3, lines 21-35) and (column 20, lines 6-20) and an outer code decoding section that decodes the information bits obtained in the inner code decoding section using different outer code parity bits corresponding to the number of retransmissions (column 2, lines 14-59) and (column 9, line 61 – column 10, line 28). The Cummings et al. reference does not teach an inner code decoding section that inner-code decodes the information bits combined in the combiner and an outer code parity bit. The Golitschek et al. reference teaches an inner code decoding section that inner-code decodes the information bits combined in the combiner and an outer code parity bit (column 1, line 44 – column 2, line 24), (column 2, line 62 – column 3, line 6) and (column 4, line 57 – column 5, line 10). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the references Cummings et al. and Golitschek et al. to incorporate an inner code decoding section that inner-code decodes the information bits combined in the combiner and an outer code parity bit into the claimed invention. The motivation for an inner code decoding section that inner-code decodes the information bits combined in the

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combiner and an outer code parity bit for improving the performance of the decoder resulting in a low bit error rate (BER) (column 11, lines 16-18 - Golitschek et al. reference).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Enam Ahmed whose telephone number is 571-270-1729. The examiner can normally be reached on Mon-Fri from 8:30 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques, can be reached on 571-272-6962.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Cynthia Britt/
Primary Examiner
AU 2117 1/4/08

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